

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

## Application Review

**Issue Date:**

**Region:** Mooresville Regional Office  
**County:** Cabarrus  
**NC Facility ID:** 1300168  
**Inspector's Name:** Jim Vanwormer  
**Date of Last Inspection:** 12/08/2020  
**Compliance Code:** 3 / Compliance - inspection

### Facility Data

**Applicant (Facility's Name):** DNP Imagingcomm America Corporation

**Facility Address:**

DNP Imagingcomm America Corporation  
 4524 Enterprise Drive NW  
 Concord, NC 28027

**SIC:** 3955 / Carbon Paper And Inked Ribbons

**NAICS:** 339944 / Carbon Paper and Inked Ribbon Manufacturing

**Facility Classification: Before:** Title V **After:**

**Fee Classification: Before:** Title V **After:**

### Permit Applicability (this application only)

**SIP:** 02D .0503, .0515, .0516, .0521, .0524, .0614, .0900, .0958, .1100, 1111

02Q .0317, .0711

**NSPS:** Subpart Dc

**NESHAP:** MACT JJJJ, ZZZZ, and DDDDD

**PSD:** Minor

**PSD Avoidance:** NNSR Avoidance

**NC Toxics:** YES

**112(r):** N/A

**Other:**

### Contact Data

### Application Data

#### Facility Contact

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**Application Number:** 1300168.17A

**Date Received:** 10/16/2017

**Application Type:** Modification

**Application Schedule:** TV-1st Time

#### Existing Permit Data

**Existing Permit Number:** 10116/R03

**Existing Permit Issue Date:** 10/17/2016

**Existing Permit Expiration Date:** 09/30/2023

### Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2020	0.0400	6.25	45.69	5.25	0.0200	12.15	11.47 [Toluene]
2019	0.0400	6.27	38.90	5.27	0.0200	15.94	15.03 [Toluene]
2018	0.0400	6.07	28.29	5.10	0.0200	7.41	6.94 [Toluene]
2017	0.0300	2.59	30.64	4.35	0.0300	9.76	8.96 [Toluene]
2016	0.0200	1.78	28.96	3.00	0.0200	9.23	8.46 [Toluene]

**Review Engineer:** Joseph Voelker

**Review Engineer's Signature:**

**Date:**

### Comments / Recommendations:

**Issue** 10116/R04

**Permit Issue Date:**

**Permit Expiration Date:**

## I. Introduction and Purpose of Application

DNP Imagingcomm America Corporation (DNP) received approval from the North Carolina Department of Environmental Quality (NCDEQ) to expand the thermal transfer ribbon (dye sublimation) facility in Concord, Cabarrus County, North Carolina via permit 10116R03, issued October 17, 2016.

Prior to the modifications permitted in Permit No. R03, the facility operated two (2) rotogravure printing/coating lines. These lines use the same raw materials and are similar in operation. The facility operated as a synthetic minor with Title V (TV) major status avoidance limits for volatile organic compounds (VOCs) (100 tpy) and hazardous air pollutants (HAPs) (25 tpy total HAP/10 tpy individual HAP) by which it complied with the operation of regenerative thermal oxidizers (RTOs).

As allowed by Permit No. R03, DNP has constructed a third line, which is a paper coating and laminate (PLM) line. Consequently, the facility requested to change its fee class status to that of a major facility for Title V purposes as it projected that its actual emissions of toluene (HAP) would exceed the major source threshold of 10 tpy.

In accordance with Permit No. 10116R03, Permit Condition 18.a, DNP is submitting this Title V permit application (Application No. 1300168.17A) within one year of the permit issuance date of Permit No. R03. The revised permit will contain emission limitations and associated testing monitoring, recordkeeping and reporting consistent with the Title V permitting regulations found under 15A NCAC 02Q .0500.

## II. Chronology

Date	Description
09/08-16/2016	For ES-PRINT01 and ES-PRINT02, performance tests to determine compliance with emission limit, verification of the permanent total enclosures (PTE) and the establishment of operating limit parameters were conducted.
12/14/2016	Stationary Source Compliance Branch (SSCB) issued a memo approving the testing conducted on 09/08-16/2016
12/17/2016	Permit No. R03 issued with a requirement to submit a TV application within one year of permit issuance.
12/16/2017	A Title V application was received and deemed complete by the NCDAQ.
02/16/2018	ADD INFO - email request sent to facility contact for additional information.
03/05/2018	Preliminary information received in response to the 02/16/2018 ADD INFO request.
05/16/2018	For ES-PRINT03, a performance test to determine compliance with emission limit, verification of PTE and the establishment of operating limit parameter was conducted.
08/24/2018	Additional information received in response to the 02/16/2018 ADD INFO request
10/15/2018	SSCB issued a memo approving the testing conducted on 05/16/2018.
08/20-21/2019	ES-PRINT01 and ES-PRINT02 performance tests to determine compliance with emission limits were conducted.
10/31/2019	SSCB issued a memo approving the testing conducted on 05/16/2018.
02/25/2021	Draft sent to Permittee for review
03/18/2021	First set of comments received from the Permittee
05/14/2021	Revised draft submitted to Permittee for review. It incorporates comments received on 03/18/2021 and a substantially revised MACT JJJJ condition.
08/01/2021	Comments received by the Permittee in response to draft sent on 05/14/2021. The Permittee wishes to include in the permit MACT JJJJ language at 63.3360(e)(4).
09/21/2021	Revised draft sent to Permittee
10/07/2021	Comments on the draft permit were received from the Permittee. Only one comment was unresolved to the satisfaction of the Permittee. The Permittee maintains that the requirements of

	40 CFR 63.3350(e) do not apply to the parameter monitoring system for the permanent total enclosure as represented in the draft permit condition at Section 2.1 A.4.1. The DAQ reviewed the comment and has determined the condition reflects the requirements of the rule correctly.
<del>MM/DD/YYYY</del>	<del>Public Notice published on NCDENR DAQ website; concurrent public/EPA comment period begins</del>
<del>MM/DD/YYYY</del>	<del>Public comment period ends. TBD</del>
<del>MM/DD/YYYY</del>	<del>EPA comment period ends. TBD</del>

### III. Modification Description

As described above in Section I the purpose of this application is to incorporate all the requirements of 15A NCAC 02Q .0500 into the air permit. No physical modifications are addressed in this application.

Each source or group of sources will be discussed separately in Section IV.

### IV. Regulatory Review

#### A. Regulations applicable to the following sources:

**Table A**

<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control System ID No.</b>	<b>Control System Description</b>
ES-PRINT01 <b>MACT</b> <b>JJJJ</b>	Nine (9) stage rotogravure printing/coating operation with steam heated dryers each stage operating within a permanent total enclosure (PTE)	CD-RTO1	Regenerative thermal oxidizer with natural gas-fired preheater (5.0 million Btu per hour maximum heat input)
ES-PRINT02 <b>MACT</b> <b>JJJJ</b>	Nine (9) stage rotogravure printing/coating operation with steam heated dryers each stage operating within a permanent total enclosure (PTE)	CD-RTO2	Regenerative thermal oxidizer with natural gas-fired preheater (3.844 million Btu per hour maximum heat input)
ES-PRINT03 <b>MACT</b> <b>JJJJ</b>	Three (3) stage paper coating and laminate printing operation with steam heated dryers each stage operating within a permanent total enclosure (PTE)	CD-RTO3	Regenerative thermal oxidizer with natural gas-fired preheater (3.2 million Btu per hour maximum heat input)

As summarized in Section 1 of the current application (Application No. 1300168.17A) for Print Lines 1 and 2 (ID Nos. ES-PRINT 01 and ES-PRINT 02):

*Lines 1 and 2 are housed in Building 1. Raw materials including pigment, wax, resin, polyethylene terephthalate (PET) rolls and additives are transported to the facility via common carrier. Methyl ethyl ketone, toluene, and isopropyl alcohol solvents are delivered by tank trucks and unloaded into three (3) outdoor storage tanks. In the mixing room (ES-MIX01), raw materials and solvent are blended. Waste solvent mixture is pumped from the mixing room to one of three waste storage tanks (T-4, T-5, T-6) for off-site disposal. The raw material and solvent blend is then pumped to the nine-stage printing machines (ES-PRINT01, ES-PRINT02). PET thin sheets are unrolled from the unwinder into the printing machine. Backing material is applied to the PET thin sheeting in the first stage of the printing machines, followed by primer and then ink in subsequent stages. Using steam heated dryers, the material is dried between each stage. The printing machines and the mixing room are each enclosed by a permanent total enclosure (PTE). Solvent-laden exhaust from the printing operation and mixing room is routed from the PTE to regenerative thermal oxidizers (RTO1, RTO2). From the printing machines, the product is re-rolled, cut, and packaged prior to shipping.*

ES-PRINT01 and ES-MIX 01 were permitted in Permit No. R00 issued November 17, 2010. ES-PRINT02 was permitted in Permit No. R02 issued October 01, 2015.

Although the Permit No. R03 and the submitted application claims that the mixing room for Lines 1 and 2 is enclosed in a PTE, additional information received from the Permittee on August 24, 2018, states this is not accurate. See discussion in Section IV.D below.

Similarly, the application included the following discussion for the PLM line (ID No. ES-PRINT03) that was permitted in permit No. R03. The following language in italics is a direct quote from the application.

*The expansion project was constructed in two phases. The first phase consisted of the expansion of warehouse space into Building 2 (Figure 1). The second phase was the construction and installation of the PLM line. A process flow diagram is included as Appendix A. The PLM addition to the existing facility includes the following:*

- *Installation of three-stage laminating and coating machines (PRINT03)*
- *Installation of one mixing room (ES-MIX02)*
- *Installation of three (3) outside storage tanks 6,000-gallon MEK storage tank (T-7)*
- *8,000-gallon toluene storage tank (T-8)*
- *1,000-gallon isopropyl alcohol (IPA) storage tank (T-9)*
- *Installation of one (1) regenerative thermal oxidizer (RTO3)*
- *Installation of two (2) natural gas-fired boilers (I-B4 and I-BS)*
- *Installation of a dust collector (IES-2) for the PLM mixing room (ES-MIX02) (note that IES-2 is labeled DC-2 in Appendix A, PLM Process Flow and Air Emission Schematic)*

*Raw materials include low-density polyethylene (LDPE) and high-density polyethylene (HDPE) pellets and solvents including toluene, MEK and isopropyl alcohol, and ethyl acetate. The overall process is similar to Lines 1 and 2. Raw materials and solvents from outside storage tanks are blended in the mixing room and then pumped to the printing machines. Waste solvent mixture is pumped to 55-gallon drums for off-site disposal. The printing machines and mixing room are each enclosed by a PTE. Solvent-laden exhaust from the printing operation and mixing room is routed from the PTE to a regenerative thermal oxidizer (RTO3).*

Although the Permit No. R03 and the submitted application claims that the mixing room for Line 3 is enclosed in a PTE, additional information received from the Permittee on August 24, 2018 states this is not accurate. See discussion in Section IV.D below.

## **15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES**

This rule requires:

*The allowable emission rates for particulate matter from any stack, vent, or outlet, resulting from any industrial process for which no other emission control standards are applicable, shall not exceed the level calculated with the equation  $E = 4.10(P)^{0.67}$  calculated to three significant figures for process rates less than or equal to 30 tons per hour. For process rates greater than 30 tons per hour, the allowable emission rates for particulate matter shall not exceed the level calculated with the equation  $E = 55.0(P)^{0.11} - 40$  calculated to three significant figures. For the purpose of these equations "E" equals the maximum allowable emission rate for particulate matter in pounds per hour and "P" equals the process rate in tons per hour.*

*Process rate means the total weight of all materials introduced into any specific process that may cause any emission of particulate matter.*

The Permittee expects no direct PM emissions from the printing operations themselves. However, condensable and filterable PM emissions may be formed from the combustion of the VOCs and natural gas in the RTOs.

The maximum heat input capacity of the largest RTO (ID No. CD-RTO-3) is 5.0 MMBtu/hr. At this heat input rate, the Permittee estimates the PM emissions to be 0.1 lb/hr based on the AP-42 emission factor for natural gas combustion (7.6 lb/10<sup>6</sup> standard cubic feet, scf < or 0.01 lb/MMBtu).

From the application Form B5, the maximum coating and solvent usage rates would occur on the PLM Line (ES-PRINT-03) and are estimated to be 1,011 lb/hr (0.51 tph). Using this as a process rate estimate, the allowable PM emissions

calculated from the equation for process rates of less than or equal to 30 tons per hour are 2.60 lb/hr. Increasing the process rate to reflect the weight of the substrate used in the process also increases the allowable emission rate. Hence, the margin of compliance is only expected to widen.

Thus, these sources are expected to be very low sources of PM emissions that are well below the allowable PM emissions allowed under this rule. As such, consistent with current DAQ permitting policy, no testing, monitoring, recordkeeping and reporting will be required.

#### **15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES**

This regulation applies to any combustion source that emits sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances. Emissions of sulfur dioxide from these sources shall not exceed 2.3 pounds per million Btu heat input. The only SO<sub>2</sub> formation would result from the combustion of natural gas in the RTOs. Based on the NCDAQ emissions estimation spreadsheet for natural gas combustion (which in turn is based on AP-42), the combustion of natural gas will emit less than 0.001 lb/MMBtu. Thus, the combustion of natural gas in the RTOs is expected to result in SO<sub>2</sub> emissions well below the allowable limit under this Rule. Consistent with current DAQ policy, no testing, monitoring, recordkeeping and reporting is required for the firing of natural gas in these sources.

#### **15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS**

This rule applies to all fuel burning sources and industrial processes reasonably expected to have visible emissions. Pursuant to 02D .0521(c) these sources are subject to a 20 % opacity limitation. Visible emissions resulting from the combustion of the VOC emissions in conjunction with the firing of the natural gas are generally negligible. Consistent with current DAQ policy no testing, monitoring, recordkeeping and reporting is required.

#### **15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY**

*(40 CFR Part 63, Subpart JJJJ – ‘National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating’)* (MACT JJJJ)

As discussed in Section I above, prior to the modifications permitted in Permit No. R03, the facility operated two web coating lines. The facility operated as a synthetic minor with Title V (TV) major status avoidance limits for volatile organic compounds (VOCs) (100 tpy) and hazardous air pollutants (HAPs) (25 tpy total HAP/10 tpy individual HAP) with which it complied by the operation of permanent total enclosures and RTOs.

In Application No. 1300168.15C, which resulted in the issuance of Permit No. R03, DNP had requested to construct a third web coating line and requested to change its fee class status to that of a major facility for Title V purposes as it projected that its actual emissions of toluene (HAP) would exceed the major source threshold of 10 tpy. As a HAP major source, MACT JJJJ was determined to be applicable to a number of sources at the facility. Permit No. R03 was issued with compliance requirements for MACT Subpart JJJJ for the following sources:

- ES-PRINT01 through ES-PRINT03; ES-MIX01 and ES-MIX02; and CLEANING OPERATIONS (IHC-1)

As part of this initial Title V application (Application No. 1300168.17C), MACT JJJJ applicability and the current permit requirements were reviewed. The current permit condition contains a fair amount of general language relating to various compliance options that are not applicable to the facility. Now that the compliance dates for all affected sources have passed and the facility has determined its compliance strategy, the revised permit will be simplified.

In addition, MACT JJJJ was revised effective as of July 9, 2020. The revised rule clarified that the rule intent was that for affected sources using capture and control systems for compliance with the emission standards (which is the compliance option chosen by the Permittee for all three web coating lines), deviations of the capture and control system parameters alone were not violations of the emission standards. The emission standard is determined on a monthly basis. Other substantial changes to the rule affecting this facility include:

- Changes associated with the vacatur of the MACT startup, shutdown and malfunction (SSM) provisions at 40 CFR 63.6. Starting July 9, 2021, the Permittee must be in compliance with the standards at all times. The vacatur had many other implications in this rule (and hence to the permit conditions) including the recordkeeping and reporting requirements.
- Five-year testing cycle: The rule now requires 5-year periodic testing of the thermal oxidizers.
- Electronic reporting: the rule revised the electronic reporting requirements.
- Revised temperature sensor validation procedures

- The use of a “Control Destruction Efficiency Curve” pursuant to §63.3360(e)(4),

### **Applicability analysis**

As stated above, applicability of this rule was revisited. Consider the following:

Pursuant to §63.3300:

*The affected source subject to this subpart is the collection of all web coating lines at your facility.....*

A web coating line is defined at §63.3310 as:

*Web coating line means any number of work stations, of which one or more applies a continuous layer of coating material across the entire width or any portion of the width of a web substrate, and any associated curing/drying equipment between an unwind or feed station and a rewind or cutting station.*

A review of the sources identified at the facility show that only the following emission sources meet the definition of a web coating line and are therefore subject to MACT JJJJ.

- ES-PRINT01, ES-PRINT02 and ES-PRINT03 (as identified in Table A above)

A review of the previous permit review suggests that the other sources (ID Nos. ES-MIX01 and ES-MIX02; and CLEANING OPERATIONS (IHC-1) ) were misidentified as being subject to MACT JJJJ because their emissions were commingled and captured by the same enclosures controlling the web coating lines which are then exhausted to the RTOs. This understanding was incorrect based on information received from the Permittee on August 24, 2018. Upon review, these other sources (ID Nos. ES-MIX01 and ES-MIX02; and CLEANING OPERATIONS (IHC-1)) do not meet the definition of a “web coating line.” The permit will be updated to remove the MACT JJJJ reference to the non-MACT JJJJ affected sources. The implications of the mixing rooms not being subject to MACT JJJJ are discussed elsewhere in this review.

As discussed above, the facility became a major source of HAP upon issuance of Permit No. R03 issued on October 27, 2016, when ES-PRINT03 was permitted and emissions of toluene (and potentially any other HAP) were permitted to exceed the 10-tpy major source threshold for HAP. Before the applicable requirements can be determined, the new vs. existing source status for each affected source must be determined/verified.

### **New vs. Existing Source Status**

The relevant sections of MACT JJJJ read as follows when assessing if a source is considered new or existing:

#### ***§63.3290 Does this subpart apply to me?***

*The provisions of this subpart apply to each new and existing facility that is a major source of HAP, as defined in §63.2, at which web coating lines are operated.*

#### ***§63.3310 What definitions are used in this subpart?***

...

*Existing affected source means (for) any affected source the construction or reconstruction of which is commenced on or before September 13, 2000, and has not undergone reconstruction as defined in §63.2.*

...

*New affected source means (for) any affected source the construction or reconstruction of which is commenced after September 13, 2000.*

#### ***§63.3300 Which of my emission sources are affected by this subpart?***

*The affected source subject to this subpart is the collection of all web coating lines at your facility.*

ES-PRINT01 was permitted in Permit No. R00 on November 17, 2010 and constructed shortly thereafter. ES-PRINT02 was permitted in Permit No. R02 on October 01, 2015 and constructed shortly thereafter. Note that construction for ES-PRINT01 and ES-PRINT02 occurred after September 13, 2000, but prior to the facility being classified as a major source of HAP. ES-PRINT03 was permitted at the same time the facility was to be classified as major. But note that 63.3300 states that the affected source is the collection of all web coating lines at the facility. Thus, MACT JJJJ does not explicitly address how to determine each web coating line as new or existing and hence the compliance requirements and compliance dates. Consider the following from 40 CFR 63 Subpart A.

**63.6(c) Compliance dates for existing sources.**

*(1) After the effective date of a relevant standard established under this part pursuant to section 112(d) or 112(h) of the Act, the owner or operator of an existing source shall comply with such standard by the compliance date established by the Administrator in the applicable subpart(s) of this part.*

*Except as otherwise provided for in section 112 of the Act, in no case will the compliance date established for an existing source in an applicable subpart of this part exceed 3 years after the effective date of such standard.*

\*\*\*

*(5) Except as provided in paragraph (b)(7) of this section, the owner or operator of an area source that increases its emissions of (or its potential to emit) hazardous air pollutants such that the source becomes a major source shall be subject to relevant standards for existing sources.*

*Such sources must comply by the date specified in the standards for existing area sources that become major sources.*

*If no such compliance date is specified in the standards, the source shall have a period of time to comply with the relevant emission standard that is equivalent to the compliance period specified in the relevant standard for existing sources in existence at the time the standard becomes effective.*

§63.6 (b)(7) reads as follows:

**63.7(b) Compliance dates for new and reconstructed sources.**

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*(7) When an area source becomes a major source by the addition of equipment or operations that meet the definition of new affected source in the relevant standard, the portion of the existing facility that is a new affected source must comply with all requirements of that standard applicable to new sources. The source owner or operator must comply with the relevant standard upon startup.*

Thus, taking the relevant sections of 40 CFR 63 Subpart A into consideration, the following can be concluded:

- Pursuant to §63.7(b)(7), ES-PRINT03 is considered a new affected source and must be in compliance with JJJJ upon start-up.
- Pursuant to §63.6(c)(5), ES-PRINT01 AND ES-PRINT02 are considered existing affected sources. MACT JJJJ does not specify a compliance date “specified in the standards for existing area sources that become major sources.” Pursuant to §63.6(c)(1), the source “shall have a period of time to comply with the relevant emission standard that is equivalent to the compliance period specified in the relevant standard for existing sources in existence at the time the standard becomes effective.” With the July 9, 2020 rule revisions, §63.3330, the section that addressed compliance date, was substantially revised to remove the compliance dates for existing and new sources. The section was recast to describe compliance with respect to startup shutdown and malfunctions (SSM) before and after July 9, 2021. However, prior to the rule revision of July 9, 2020 discussed above, this “period of time” would be 3 years. As derived from the previous rule, the compliance date for existing sources in 63.3330(a) was December 5, 2005 and the effective date of the rule was December 4, 2002. Thus, pursuant to §63.6(c)(1), the compliance date is therefore 3 years after the issuance of Permit R03, or October 17, 2019 (i.e., October 17, 2016 + 3 years) for ES-PRINT01 and ES-PRINT02.

**Emission standards**

The Permittee has chosen to meet following emission standards at §63.3320(b)(1):

*(b) You must limit organic HAP emissions to the level specified in paragraph (b)(1), (2), (3), or (4) of this section.*

*(1) No more than 5 percent of the organic HAP applied for each month (95 percent reduction) at existing affected sources, and no more than 2 percent of the organic HAP applied for each month (98 percent reduction) at new affected sources.*

The Permittee has chosen to comply with the above standards by the use of a capture system and control device pursuant to §63.3370(a)(5). In practice, this means using a permanent total enclosure (PTE) around each of the web coating lines to capture 100% of the HAP emissions and to control the emissions with associated RTOs.

Thus, ES-PRINT01 and ES-PRINT02 must meet 95% destruction removal efficiency (DRE) and ES-PRINT03 must meet 98% DRE.

The use of the add-on control devices also requires the meeting of operating limits pursuant to §63.3321. For thermal oxidizers this means:

“The average combustion temperature in any 3-hour period must not fall more than 50 °F below the combustion temperature limit established according to §63.3360(e)(3)(i)”

§63.3360(e)(3)(i) specifies how this is to be achieved during a performance test.

The initial performance tests for ES-PRINT01 and ES-PRINT02 were conducted between September 08 and September 16, 2016, and the results were memorialized in a memo issued by the SSCB on December 14, 2016. The operation of the PTE and compliance with the applicable limits were determined. However, the 3-hour firebox temp required for monitoring continuous compliance and the appropriate parameters for the site-specific monitoring plan were not determined.

The initial performance test for ES-PRINT03 was conducted on May 16, 2018, and the results were memorialized in memo issued by the stationary source compliance branch SSCB on October 15, 2018. The 3-hour firebox temperature operating limit and compliance with the 98% DRE limits were determined. The proper operation of the PTE was verified. The RTO (ID No. CD-RTO3) for ES-PRINT03 has only one combustion temperature sensor.

A second round of performance tests for ES-PRINT01 and ES-PRINT02 was conducted between August 20 and 21, 2019, and the results were memorialized in a memo issued by the SSCB on October 31, 2019. The 3-hour firebox temperature operating limits and compliance with the 95% DRE limits were determined. The proper operation of the associated PTEs were also verified. Note that RTO (ID No. CD-RTO1) for ES-PRINT01 has two combustion temperature sensors. The RTO (ID No. CD-RTO2) for ES-PRINT02 has only one combustion temperature sensor.

The revised permit will contain a table of these 3-hour average combustion temperature limits. If the temperature drops more than 50 °F below these temperatures, or if the capture systems operating parameters established pursuant §63.3350 is not maintained, an operating limit deviation will have occurred. The existing permit condition was modified to cover this scenario by including an alternative emission limitation using the “mass balance approach” as allowed pursuant to §63.3370(r). The Permittee essentially assumes zero percent control and capture for those periods of deviations. For those months, the Permittee would be required for each period of deviation to determine the as-applied HAP and assume 100% is emitted. The rule also allows total VOC to be used as a surrogate.

Based on discussions with the facility, operating a web coating line during a period of an operating limit deviation is unlikely, as the Permittee claims operation of each web coating line is interlocked to its respective capture and control system. Thus, if the capture and control is not meeting the parameter requirements, there will be no operation of the web coating lines.

Although the rule allows for the use of a “Control Destruction Efficiency Curve” pursuant to §63.3360(e)(4), the Permittee has not demonstrated the performance of any RTO such that a performance curve could be generated. The Permittee, however, would like the language to be included to the permit to “ensure” its possible use at a later date. This is a reasonable request, given that additional language will be added to the permit pursuant to 15A NCAC 02Q .0508(f) requiring a permit application to be submitted to allow for the technical review of such a curve and the incorporation of the appropriate monitoring recordkeeping and reporting requirements for its use. It is likely that such a curve will require source test data to be submitted that meets the typical source testing requirements found at General Condition JJ of the TV operating permit.

The revised permit will also contain recurring RTO performance testing every 5 years and exhaustive monitoring, recordkeeping and reporting requirements as required pursuant to MACT JJJJ.

**15A NCAC 02D .0958: WORK PRACTICES FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS**

See discussion under Facility-wide Regulatory Considerations.

**15A NCAC 02D .1100 TOXIC AIR POLLUTANTS (STATE-ENFORCEABLE ONLY)**

See discussion under Facility-wide Regulatory Considerations.

**15A NCAC 02D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS (STATE-ENFORCEABLE ONLY)**

See discussion under Facility-wide Regulatory Considerations.

**15A NCAC 2Q .0317: AVOIDANCE CONDITIONS for 15A NCAC 2D .0531 NEW SOURCE REVIEW**

See discussion under Facility-wide Regulatory Considerations.

**B. Regulations applicable to the following sources:**

**Table B**

<b>Emission Source ID</b>	<b>Emission Source Description</b>	<b>Control System ID</b>	<b>Control System Description</b>
B-1 NSPS Dc MACT DDDDD	Natural gas-fired boiler with low NOx burner (12.4 million Btu per hour maximum heat input; 300 Horsepower)	N/A	N/A
B-2 NSPS Dc MACT DDDDD	Natural gas-fired boiler with low NOx burner (12.4 million Btu per hour maximum heat input; 300 Horsepower)	N/A	N/A
B-3 NSPS Dc MACT DDDDD	Natural gas-fired boiler with low NOx burner (12.4 million Btu per hour maximum heat input; 300 Horsepower)	N/A	N/A
B-4 NSPS Dc MACT DDDDD	Natural gas-fired boiler with low NOx burner (11.5 million Btu per hour maximum heat input; 300 Horsepower)	N/A	N/A
B-5 NSPS Dc MACT DDDDD	Natural gas-fired boiler with low NOx burner (11.5 million Btu per hour maximum heat input; 300 Horsepower)	N/A	N/A

The facility operates 5 natural gas boilers which are used to generate steam to provide indirect heat to the printing operation dryers.

- Boilers B-1 and B-2 were permitted in November 2010 with Permit No. R00.
- Boiler B-3 was permitted October 2015 with Permit No. R02.
- Boilers B-4 and B-5 were permitted in October 2016 with Permit No. R03. The heat input for these boilers listed in Permit No. R03 was also 12.3 MMBtu/hr but subsequent inspection reports note that these values should be 11.5 MMBtu/hr.

**15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS**

This regulation applies to particulate matter emissions from the combustion of fuel in indirect heat exchangers, such as boilers, that are discharged from any stack or chimney into the atmosphere.

Fuel burning indirect heat exchangers (FBIHE) are limited to particulate matter emissions under this rule by the following equation:

$$E = 1.090 * Q^{(-0.2594)}$$

Where:

E = allowable emission limit for particulate matter in lb/million Btu.

$Q$  = maximum heat input in million Btu/hour.

The emission limitation for a given source is determined as a function of the total heat input to all such sources on site at the time the particular source was permitted. Also, once a limit has been established for a source, it shall not be changed upon the permitting of additional sources.

Taking this into consideration.

Boilers B-1 and B-2 were permitted in Permit No. R00. The total heat input included B-1 and B-2 so  $Q = 12.4 * 2 = 24.8$  MMBtu/hr so  $E = 0.47$  lb per million Btu for boilers B-1 and B-2.

Boiler B-3 was permitted in Permit No. R02. The total heat input included Boilers B-1, B-2 and B-3 so  $Q = 12.4 * 3 = 37.2$  MMBtu/hr so  $E = 0.43$  lb per million Btu for boilers B-3.

Boilers B-4 and B-5 were permitted in Permit No. R03. The facility-wide heat inputs for all FBIHE was:  $Q = 12.4 * 3 + 11.5 * 2 = 60.2$  MMBtu/hr so  $E = 0.38$  lb per million Btu for boilers B-4 and B-5.

Contrary to the review for Permit No. R03, the RTOs are not FBIHE as defined under the rule. Based on the AP-42 emission factor of 7.6 lb/10<sup>6</sup> scf or 0.01 lb/MMBtu, PM emissions for natural gas-fired FBIHEs are expected to be well below these allowable limits. Consistent with current DAQ policy, no testing, monitoring, recordkeeping and reporting will be required.

#### **15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES**

This regulation applies to any combustion source that emits sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances. Emissions of sulfur dioxide from these sources shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. Based on the AP-42 emission factor for natural gas combustion of 0.60 lb/10<sup>6</sup> scf or 5.88E-04 lb/MMBtu, SO<sub>2</sub> emissions from the combustion of natural gas are expected to be well below these allowable limits. Consistent with current DAQ policy, no testing, monitoring, recordkeeping and reporting will be required.

#### **15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS**

rule applies to all fuel burning sources and industrial processes reasonably expected to have visible emissions. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. Visible emissions from the combustion of natural gas are inherently low and therefore are expected to be well below 20% opacity. Consistent with current DAQ policy, no testing, monitoring, recordkeeping and reporting will be required.

#### **15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS**

(40 CFR Part 60, Subpart Dc, "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units)

Pursuant to 40 CFR 60.40c, with some exceptions this rule applies to:

\*\*\*each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h).

The boilers identified in Table B above meet none of the exceptions list at 40 CFR 60.40c and are therefore subject to this rule.

With heat inputs greater than 10 MMBtu/hr and only burning natural gas, these boilers are only subject to initial startup notification requirements (40 CFR 60.48c(a)) and monthly fuel usage recordkeeping requirements (40 CFR 60.48c(i)). Initial notification of actual start-up of boilers (ID Nos. B-1 and B-2) was completed on October 20, 2011. Initial notification of actual start-up of boiler (ID No. B-3) was completed on February 12, 2016. Initial notification of actual start-up of boilers (ID Nos. B-4 and B-5) was completed on December 22, 2016.

The Permit will be revised to remove the notification requirements since these dates have passed, but the monthly fuel recordkeeping requirements will remain.

**15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY**

40 CFR Part 63, Subpart DDDDD “National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters” (Subpart 5D)

The facility has five boilers that combust natural gas (defined as “units designed to burn gas 1 fuels” in the rule). All five boilers were constructed after June 4, 2010. §63.7490 reads as follows:

§63.7490 What is the affected source of this subpart?

- (a) This subpart applies to new, reconstructed, and existing affected sources as described in paragraphs (a)(1) and (2) of this section.
  - (1) \* \* \*
  - (2) \* \* \*
- (b) A boiler or process heater **is new if** you commence construction of the boiler or process heater after June 4, 2010, and **you meet the applicability criteria at the time you commence construction.**
- (c) \* \* \*
- (d) A boiler or process heater is existing if it is not new or reconstructed.

Boilers B-1, B-2 and B-3 were constructed after June 4, 2010 but did not meet the applicability criteria in that they were located at a minor source of HAP emissions at the time. Since they are not new, they are existing pursuant to §63.7490(d). Boilers B-4 and B-5 were constructed after June 4, 2010 and are considered new under the rule.

To determine compliance dates, 40 CFR 63.7495 reads:

- (c) If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, paragraphs (c)(1) and (2) of this section apply to you.
  - (1) Any new or reconstructed boiler or process heater at the existing source must be in compliance with this subpart upon startup.
  - (2) Any existing boiler or process heater at the existing source must be in compliance with this subpart within 3 years after the source becomes a major source.

Thus, Boilers B-1 through B-3 must meet the requirements for existing boilers within 3 years after the issuance of Permit No. R03, which was the date the facility became a major source. Thus, the compliance date was October 17, 2019. These requirements include an energy assessment and an initial tune up before October 17, 2019. Boilers B-4 and B-5 must have an initial tune up within one year of its compliance date which is the date of initial startup. None of the boilers are equipped with oxygen trim systems. Subsequent compliance requirements are identical to both groups of boilers consisting of annual tune-ups, recordkeeping associated with the tune up requirements and any maintenance, and reporting. The following table from the 2019 inspection report shows the annual tune up status at the time of the inspection.

Emission Source ID	Actual Start-up	Previous Tune-up	Last Tune-up
B-1	10/20/2011	9/24/2018	9/22/2019
B-2	10/20/2011	9/24/2018	5/15/2019
B-3	02/12/2016	4/16/2018	5/15/2019
B-4	12/21/2016	9/24/2018	3/16/2019
B-5	12/21/2016	9/24/2018	5/17/2019

The permit will be revised accordingly to current TV permit shell standards and to remove or memorialize compliance milestones already met.

**C. Regulations applicable to the following sources:**

**Table C-1**  
**Tank descriptions as they appear in Permit No. R03**

Emission Source ID	Emission Source Description	Control System ID	Control System Description
T-1	Methyl ethyl ketone storage tank (6,000 gallon capacity)	N/A	N/A
T-2	Toluene storage tank (6,000 gallon capacity)	N/A	N/A
T-3	Isopropyl alcohol (IPA) storage tank (4,000 gallon capacity)	N/A	N/A
T-4	Waste solvent storage tank (1,000 gallon capacity)	N/A	N/A
T-5	Waste solvent storage tank (1,000 gallon capacity)	N/A	N/A
T-6	Waste solvent storage tank (1,000 gallon capacity)	N/A	N/A
T-7	Methyl ethyl ketone (MEK) storage tank (6,000 gallon capacity)	N/A	N/A
T-8	Toluene storage tank (8,000 gallon capacity)	N/A	N/A
T-9	Isopropyl alcohol (IPA) storage tank (1,000 gallon capacity)	N/A	N/A

These storage tanks are emission sources of VOCs, HAPs, and TAPs. Tanks T-7 through T-9 were permitted in Permit No. R03. The current application and subsequent correspondence have corrected the sizes and contents of the tanks. The tanks will appear in the revised permit as follows:

**Table C-2**  
**Tank descriptions as they will appear in draft Permit No. T04**

Emission Source ID	Emission Source Description	Control System ID	Control System Description
T-1	Methyl ethyl ketone storage tank (6,000 gallon capacity)	N/A	N/A
T-2	Toluene storage tank (6,000 gallon capacity)	N/A	N/A
T-3	Ethanol storage tank (1,000 gallon capacity)	N/A	N/A
T-4	IPA storage tank (1,000 gallon capacity)	N/A	N/A
T-5	IPA storage tank (1,000 gallon capacity)	N/A	N/A
T-6	n-Propyl Acetate storage tank (1,000 gallon capacity)	N/A	N/A
T-7	Methyl ethyl ketone (MEK) storage tank (6,000 gallon capacity)	N/A	N/A
T-8	Toluene storage tank (8,000 gallon capacity)	N/A	N/A
T-9	Isopropyl alcohol (IPA) storage tank (1,000 gallon capacity)	N/A	N/A

#### **STATE ENFORCEABLE ONLY**

##### **15A NCAC 02D .1100 TOXIC AIR POLLUTANTS**

See discussion under Facility-wide Regulatory Considerations.

##### **15A NCAC 02D .0958: WORK PRACTICES FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS**

See discussion under Facility-wide Regulatory Considerations.

##### **15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS**

*(40 CFR 60 Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984)*

This regulation is applicable to storage vessels with a capacity greater than or equal to 75 cubic meters (19,813 gallons) that are used to store volatile organic liquids (VOL). The storage tanks located at the DNP facility containing VOL each have a capacity less than 19,813 gallons; therefore, Subpart Kb is not applicable.

#### **D. Regulations applicable to the following sources:**

Emission Source ID No.	Emission Source Description	Control System ID No.	Control System Description
ES-MIX01	Mixing room operating within a permanent total enclosure (PTE)	CD-RTO1	Regenerative thermal oxidizer with natural gas-fired preheater (5.0-million Btu per hour maximum heat input)

Emission Source ID No.	Emission Source Description	Control System ID No.	Control System Description
ES-MIX02	Mixing room operating within a permanent total enclosure (PTE)	CD-RTO3	Regenerative thermal oxidizer with natural gas-fired preheater (3.2-million Btu per hour maximum heat input)

Although Permit No. R03 and the submitted application (Application No. 1300168.17A) claims that the mixing rooms are enclosed in PTEs, additional information received from the Permittee on August 24, 2018, states this is not completely accurate. The letter states:

**Lines 1 and 2: Mixing Room and Subtanks (ES-MIX01)**

*This addresses Item 2 in the correspondence provided in Attachment A. The Title V permit application was written with the assumption that the mixing rooms associated with each printing line were contained within a permanent total enclosure (PTE), which was incorrect. Each printing station and associated oven is enclosed within an individual PTE. The mixing room (ES-MIX01) and subtanks (separately identified as ES-SUB01) supporting production on Lines 1 and 2 are not contained within a PTE.*

*In Building 1, where Lines 1 and 2 are located, the mixing area (ES-MIX01) contains mixing and dilution tanks located in a room that is serviced by both an air handling unit and a general room exhaust connected to the RTOs. The tanks in ES-MIX01 are the only anticipated source of VOC fugitive emissions from the mixing and dilution tanks in Building 1. ES-MIX02 does not contain any open tanks.*

**PLM Line: Mixing Room (ES-MIX03)**

*This addresses Item 2 in the correspondence provided in Attachment A. Similar to Lines 1 and 2, ES-MIX03 is not contained within a PTE. ES-MIX03 is located on two levels. The bottom level of ES-MIX03 contains only tanks that are closed during normal operation, and no fugitive emissions are expected from these tanks. The second level of ES-MIX03 contains tanks that are operated similar to those in ES-MIX01. Fugitive emissions were calculated in the same manner as for ES-MIX01.*

The mixing rooms, although having their emissions “captured” and routed to the RTO, have not been evaluated pursuant to 40 CFR 51 Appendix M, Method 204, “Criteria for and Verification of a Permanent or Temporary Total Enclosure.” Therefore, the capture systems of the mixing rooms do not meet the definition of a PTE.

In a practical sense, since the recordkeeping is driven by MACT JJJJ and all of the VOC containing materials used in this room are routed to the web coating lines, the Permittee typically assumes a percentage of all VOCs used are emitted as fugitive (0.5% of total VOC/organic HAP usage) for emission inventory purposes. Thus, the VOC/HAP emissions are “most likely” captured even though the Permittee assumes some level of fugitive emissions. The Permittee will need to evaluate the mixing rooms pursuant to Method 204 if it is desired to assume 100% capture of all VOC/HAP/TAP emissions.

Note that given the margin of compliance with the state enforceable only toxics demonstration (see 02D .1100 discussion elsewhere in this review), the assumption of less than 100% capture of the mixing room emissions will not result in an exceedance of any Acceptable Ambient Level (AAL) for any pollutant regulated pursuant to 15A NCAC 02D .1100 nor result in any issues for the facility when complying with 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS for 15A NCAC 02D .0531 NEW SOURCE REVIEW (addressed elsewhere in this review).

To reflect operations more accurately, the descriptor for the mixing rooms will be revised to read as follows:

**Current:**

Emission Source ID No.	Emission Source Description	Control System ID No.	Control System Description
ES-MIX01	Mixing room operating within a permanent total enclosure (PTE)	CD-RTO1	Regenerative thermal oxidizer with natural gas-fired preheater (5.0-million Btu per hour maximum heat input)

Emission Source ID No.	Emission Source Description	Control System ID No.	Control System Description
ES-MIX02	Mixing room operating within a permanent total enclosure (PTE)	CD-RTO3	Regenerative thermal oxidizer with natural gas-fired preheater (3.2-million Btu per hour maximum heat input)

**Revised:**

Emission Source ID No.	Emission Source Description	Control System ID No.	Control System Description
ES-MIX01	Mixing room serving lines 1 and 2	CD-RTO1 or	Regenerative thermal oxidizer with natural gas-fired preheater (5.0-million Btu per hour maximum heat input)
		CD-RTO2	Regenerative thermal oxidizer with natural gas-fired preheater (3.844-million Btu per hour maximum heat input)
ES-MIX02	Mixing room serving the PLM line	CD-RTO3	Regenerative thermal oxidizer with natural gas-fired preheater (3.2-million Btu per hour maximum heat input)

**15A NCAC 02D .0958: WORK PRACTICES FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS**

See discussion under Facility-wide Regulatory Considerations.

**15A NCAC 02D .1100 TOXIC AIR POLLUTANTS (STATE ENFORCEABLE ONLY)**

See discussion under Facility-wide Regulatory Considerations.

**E. Insignificant Activities**

In a response for an additional information request received on March 05, 2018, the Permittee provided the following explanation (in italics) regarding insignificant activities:

**Insignificant Activities**

Your permit application includes the insignificant activities associated with the location at line 3. Please provide a list for ALL insignificant activities at the facility. I note that during our plant tour we identified a previously unlisted fire pump engine and two dust controlled raw material silos. Please include these (and any other as necessary previously unlisted sources) in an updated list.

- IES-1 Powder hoppers on mixing tanks *This is currently listed in the permit.*
- IEG-1 Natural gas fired emergency generator (134 hp, 100 kW engine) *This is currently listed in the permit.*
- IEG-2 Diesel-fired emergency fire pump *This needs to be added as an insignificant activity to the current permit. This is an 80 hp diesel-fired emergency engine.*
- IHC-1 Miscellaneous Hand Cleaning. *This is currently listed in the permit. The current permit states this is subject to NESHAP Subpart JJJJ; however, cleaning is not included in the definition of an affected source; therefore, we request that the reference to NESHAP Subpart JJJJ is removed.*
- IDC-1 Dust Collector (1,520 sq ft of filter area) *This is currently listed in the permit.*
- IDC-2 Dust Collector (1,520 sq ft of filter area) *This is currently listed in the permit.*
- IS-1 and IS-2 Dust controlled raw material silos (4 sq ft of filter area each) *The two Plastic Pellet Storage Silos need to be added as an insignificant activity to the current permit. They are insignificant due to size or production rate.*

*An additional source of emissions not included in the permit application has been identified as the Trim Removal System at Building 2 (PLM Line). This cannot be classified as insignificant, based on site-specific emission data. The trim removal system will need to be added to the permit as an emission source. DNP is preparing the appropriate forms.*

Regarding the Trim Removal System, the Permittee supplied the following additional information on August 24, 2018.

**Trim Removal System**

*This addresses Item 1 in the correspondence provided in Attachment A. The facility operates two trim removal systems. One trim removal system collects particulate emissions, the exhaust from the system is vented through filter socks located inside the building. The second trim removal system vents to ambient air and is uncontrolled. The quantity of particulate collected from the first trim removal system (venting into the building) was scaled up using the maximum production rate of the second trim removal system (venting outdoors) to calculate a particulate matter emission factor. The potential to emit from the trim removal system is 0.18 tons per year total particulate. The Trim Removal System only emits particulate matter (PM), it does not violate any emission standards, it does not emit hazardous or toxic air pollutants, and it has potential emissions less than five tons per year; therefore DNP requests the trim removal system venting to the outdoors be added to the list of insignificant activities. Calculations are provided as Attachment B.*

The trim removal system will be added to the insignificant activities list. The list will otherwise be updated based on the response above.

The insignificant list will appear in the revised permit as follows:

<b>Emission Source ID No.</b>	<b>Emission Source Description</b>
IES-1	Powder hoppers on mixing tanks
IEG-1 <b>MACT ZZZZ</b>	Natural gas-fired Emergency Generator (134 horsepower (hp) and 100 kilowatt (kW) engine output)
I-FP <b>MACT ZZZZ</b>	Diesel fuel fired-fired Emergency Fire Pump (80 horsepower engine output)
IHC-1	Miscellaneous hand cleaning
IDC-1	Dust Collector (1,520 square feet of filter area)
IDC-2	Dust Collector (1,520 square feet of filter area)
IS-1	Dust controlled raw material silos (4 sq ft of filter area)
IS-2	Dust controlled raw material silos (4 sq ft of filter area)
I-TR	Trim Removal Line

The insignificant activities in the list above are subject to the following rules. The compliance obligations for these rules are the responsibility of the Permittee and are not explicitly included in the TV permit. Discussion of these requirements are beyond the scope of the review here.

- 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES  
Sources IEG-1 and I-FP only
- 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS  
All sources
- 15A NCAC 02D .0958: WORK PRACTICES FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS  
Facility-wide
- 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR 63, Subpart DDDDD, "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters")  
Sources IEG-1 and I-FP only

- 15A NCAC 02D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS (STATE-ENFORCEABLE ONLY)  
Facility-wide

## F. Facility-wide Regulatory Considerations

### 15A NCAC 02D .0900 VOLATILE ORGANIC COMPOUNDS

#### 15A NCAC 02D .0902 APPLICABILITY

The facility is located in Cabarrus County which is considered an Ozone attainment/maintenance area for the 1997 and 2008 ozone standards. This has implications for the VOC emitting sources on site.

02D .0902(f) states:

(f) Except as provided in Paragraph (e) of this Rule, the rules in this Section apply to facilities subject to Section 182(b)(2) of the Clean Air Act with potential to emit 100 or more tons per year of VOC and to facilities with potential to emit less than 100 tons per year of volatile organic compounds in categories for which the United States Environmental Protection Agency has issued Control Technique Guidelines that are located in the following moderate nonattainment areas for the 1997 8-hour ozone standard as designated in 40 CFR 81.334 prior to January 2, 2014:

(1) Cabarrus County;

\*\*\*

These facilities are subject to reasonably available control technology requirements under this Section and shall comply with these requirements in accordance with Rule .0909 of this Section through use of Rule .0951 of this Section and with Rule .0958 of this Section.

02D .0902(g) states:

(g) If any county or part of a county to which this Section applies is later designated in 40 CFR 81.334 as attainment and becomes a maintenance area for the 1997 8-hour ozone standard, all sources in that county or part of county subject to Paragraph (f) of this Rule that achieved compliance in accordance with Rule .0909 of this Section shall continue to comply with this Section. Facilities with potential to emit less than 100 tons of volatile organic compounds per year for that the compliance date in Rule .0909 of this Section has not passed before redesignation of the area to attainment for the 1997 ozone standard shall comply in accordance with Paragraph (h) of this Rule

The net result of this language is that the facility must continue to comply with 02D .0958 (discussed below). No other 02D .0900 rules apply to this facility.

### 15A NCAC 02D .0958: WORK PRACTICES FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS

This rule is simply a work practices rule for the proper handling of VOC containing materials to minimize VOC emissions. It applies facility-wide. The current permit already contains a permit condition with all of the storage, handling and cleaning requirements found at 02D .0958(c) and(d). Monitoring, recordkeeping and reporting requirements consistent with current TV permitting policy will also be added. Continued compliance is expected.

#### STATE-ENFORCEABLE ONLY

### 15A NCAC 02D .1100 TOXIC AIR POLLUTANTS

During the review for Permit No. R03, a facility-wide modeling demonstration was performed to show that the emissions of toxics air pollutants (TAPs) regulated under 02D .1100 would not pose an unacceptable risk to human health pursuant to North Carolina General Statute 143-215.107(a)(5)b. The modeling demonstration reflected the configuration of the plant as it is currently constructed with the exception of the contents of certain storage tanks (T-4, T-5 and T-6) which are no longer sources of TAPs. See discussion in Section III.C above.

The modeling analysis was approved by the Air Quality Analysis Branch (AQAB) via a memo dated June 9, 2016. The sources modeled and their associated emission rates based on potential emissions estimates and dispersion parameters are included in the modeling memo. The following is a summary of the modeling results:

**Table 1. Impacts**  
**DNP - Concord, North Carolina**

Pollutant	Averaging Period	Air Conc. (mg/m3)	AAL (mg/m3)	% of AAL
MEK	1-hr	2	88.5	2%
MEK	24-hr	1.2	3.7	32%
Toluene	24-hr	0.23	4.7	5%

Note that the margin of compliance is expected to be even greater than presented in the table above since storage tanks T-4, T-5 and T-6 are no longer sources of TAPs.

As the majority of sources of TAPs at the facility are subject to a MACT (JJJJ or DDDDD or ZZZZ) and hence exempt from toxics permitting pursuant to 15A NCAC 02Q .0702, the associated emission limitations of these sources were not placed into the permit no. R03. Upon review, however, it is noted that the storage tanks are not subject to any MACT nor meet any other toxics permitting exemption pursuant to 02Q .0702. Therefore the revised air permit will include the modeled emission limits for these non-exempt sources (ID Nos. T-1, T-2, T-7 and T-8). Given the large margin of compliance with each of the respective AALs, no monitoring recordkeeping or reporting will be required.

#### 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS for 15A NCAC 02D .0531 NEW SOURCE REVIEW

The current permit contains a 100 tpy of VOC limit to avoid triggering new source review pursuant to 15A NCAC 02D .0531. This condition was placed into the permit (No. R00, issued November 07, 2010) when the location of the facility was designated as non-attainment for the 2008 ozone standard. The portion of Cabarrus County in which the facility is located was subsequently designated in attainment/maintenance effective August 27, 2015. As these reductions were relied upon to achieve this designation, the limitation will remain in the revised air permit as implied pursuant to 15A NCAC 02D .0531(b). Note that sources at the facility added after August 27, 2015, are not subject to this limit. This would include all sources added in Permit No. R03, issued October 1, 2015, onward.

It is noted the review for Permit No. R03 states:

*\*\*\* However, the 02D .0531 condition will remain. At the facility's request the proposed equipment was added under this facility-wide limit. All recordkeeping and reporting was previously included in the synthetic minor condition and will remain in the Title V permit.*

Thus, it appeared the intention was to add the source permitted in Permit No. R03 to the avoidance condition as well. In the end however, the avoidance condition in Permit No. R03 did not reflect the sources permitted through Permit No. R03. ~~In addition, it would not make sense to limit certain sources emissions to avoid requirements that were not applicable.~~ To clarify the requirement moving forward, the permit condition addressing this rule will be revised to just include the sources legally subject to this requirement. The sources are as follows:

Emission Source ID	Emission Source Description	Control System ID	Control System Description
ES-PRINT01 <b>MACT JJJJ</b>	Nine (9) stage rotogravure printing/coating operation with steam heated dryers each stage operating within a permanent total enclosure (PTE)	CD-RTO1	Regenerative thermal oxidizer with natural gas-fired preheater (5.0-million Btu per hour maximum heat input)
ES-MIX01	Mixing room		
T-1	Methyl ethyl ketone storage tank (6,000 gallon capacity)	N/A	N/A
T-2	Toluene storage tank (6,000 gallon capacity)	N/A	N/A
T-3	Isopropyl alcohol (IPA) storage tank (4,000 gallon capacity)	N/A	N/A
T-4	Waste solvent storage tank (1,000 gallon capacity)	N/A	N/A
T-5	Waste solvent storage tank (1,000 gallon capacity)	N/A	N/A
T-6	Waste solvent storage tank (1,000 gallon capacity)	N/A	N/A
B-1, NSPS Dc, <b>MACT DDDDD</b>	Natural gas-fired boiler with low NOx burner (12.4 million Btu per hour maximum heat input; 300 Horsepower)	N/A	N/A
B-2	Natural gas-fired boiler with low NOx burner (12.4 million Btu per hour maximum heat input; 300 Horsepower)	N/A	N/A

Emission Source ID	Emission Source Description	Control System ID	Control System Description
<b>NSPS Dc, MACT DDDDD</b>			
IES-1	Powder hoppers on mixing tanks	N/A	N/A
IEG-1 <b>MACT ZZZZ</b>	Natural gas-fired Emergency Generator (134 horsepower (hp) and 100 kilowatt (kW) engine output)	N/A	N/A
IHC-1	Miscellaneous hand cleaning	N/A	N/A
IDC-1	Dust Collector (1,520 square feet of filter area)	N/A	N/A

The monitoring requirements in the current permit extend only to the RTOs that control the VOC emissions from the print lines (ID Nos. ES-PRINT01 and ES-PRINT02) since in all likelihood the only way the 100 tpy VOC limit will be exceeded is if the RTO is not operational for a substantial period of time. All other sources of VOC are relatively minor. However, the monitoring requirements for the RTO's consist of only inspection and maintenance requirements. In the revised permit, the monitoring again will be limited to the RTO for the print line (ID No. ES-PRINT01) remaining subject to this rule. However, the monitoring requirements will be streamlined and reference the MACT JJJJ monitoring requirements found elsewhere in the air permit. The MACT JJJJ requirements will ensure the VOC emissions are captured and destroyed.

The recordkeeping requirements for the print line (ID No. ES-PRINT01) will also be revised to require compliance with the MACT JJJJ recordkeeping requirements found elsewhere in the permit. Additionally, consistent with standard DAQ permitting policy, the Permittee shall be required to keep monthly records of the VOC emissions from the sources in the table above.

The existing reporting requirement that requires monthly and 12-month total calculations of VOC emissions from the affected source will remain unchanged other than adding the appropriate regulatory citation (15A NCAC 02Q .0508(f)).

#### **15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING [40 CFR Part 64]**

02D .0614(a) states:

- (a) General Applicability. Except as set forth in Paragraph (b) of this Rule, the requirements of this Paragraph shall apply to a pollutant-specific emissions unit at a facility required to obtain a permit pursuant to 15A NCAC 02Q .0500 if the unit:
  - (1) is subject to an emission limitation or standard for the applicable regulated air pollutant, or a surrogate thereof, other than an emission limitation or standard that is exempt pursuant to Subparagraph (b)(1) of this Rule;
  - (2) uses a control device to achieve compliance with any such emission limitation or standard; and
  - (3) has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. For purposes of this Subparagraph, "potential pre-control device emissions" means the same as "potential to emit" as defined in 15A NCAC 02Q .0103, except that emission reductions achieved by the applicable control device shall not be taken into account.

Note that a pollutant-specific emissions unit (PSEU) is defined in at 40 CFR 64.1 as an emissions unit considered separately with respect to each regulated air pollutant. Also note that TAPs are not considered regulated air pollutants as defined at 40 CFR 64.1 and hence not subject to CAM.

Applicability will be addressed for all on-site sources below. Note that once one of the three criteria identified in 02D .0614(a) is determined to not apply, no further discussion is necessary.

#### **Print Lines**

Each print line identified in Section IV.A above are considered to be a PSEU. Each print line uses a control device (RTO) to comply with the following emission limitations or standards as follows:

• **15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY**

(40 CFR Part 63, Subpart JJJJ – ‘National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating’)

All three print lines (ID Nos. ES-PRINT01, ES-PRINT 02 and ES-PRINT 03) are subject to this standard and utilize a control device to comply with this standard for HAPs.

• **15A NCAC 02Q .0317: AVOIDANCE CONDITIONS for 15A NCAC 02D .0531 NEW SOURCE REVIEW**

Only one print line (ID No. ES-PRINT01) is subject to this emission limitation and utilizes a control device to comply with this limitation for total VOC.

The RTOs are not used achieve compliance with any other emission limitation or standard. However, the exemptions at 02D .0614(b) state:

*(b) The following exemptions to this Rule shall apply.*

*(1) Exempt emission limitations or standards. The requirements of this Rule shall not apply to any of the following emission limitations or standards:*

*(A) emission limitations or standards proposed by the Administrator of the Environmental Protection Agency after November 15, 1990, pursuant to section 111 or 112 of the federal Clean Air Act;*

*(B) stratospheric ozone protection requirements pursuant to Title VI of the federal Clean Air Act;*

*(C) Acid Rain Program requirements pursuant to sections 404, 405, 406, 407(a), 407(b), or 410 of the federal Clean Air Act;*

*(D) emission limitations or standards or other applicable requirements that apply solely under an emissions trading program approved under the rules of Subchapters 02D and 02Q of this Chapter and that are incorporated in a permit issued pursuant to 15A NCAC 02Q .0500;*

*(E) an emissions cap that is approved pursuant to the rules of Subchapters 02D and 02Q of this Chapter and incorporated in a permit issued pursuant to 15A NCAC 02Q .0500;*  
*or*

The regulation 02D .1111 (MACT JJJJ) meets the exemption at 02D .0614(b)(1)(A). The regulation 02D .0317 (New Source Review Avoidance) meets the exemption at 02D .0614(b)(1)(E). Thus, the three print lines do not meet the applicability criteria at 02D .0614(a)(1) and are not subject to CAM.

**Boilers**

The boilers identified in Section IV.B above are each considered to be a PSEU. The boilers are emission sources of PM/PM10/PM2.5, NO<sub>x</sub>, SO<sub>2</sub>, CO, VOCs, HAPs, and TAPs. Each boiler has potential pre-control device emissions less than 100 tpy each of PM/PM10/PM2.5, NO<sub>x</sub>, SO<sub>2</sub>, CO, VOCs and 10 tpy of each HAP and 25 tpy of total HAP. Thus, these sources do not meet the applicability criteria at 40 CFR 64.2(a)(3) and are not subject to CAM.

**Storage Tanks**

The storage tanks identified in Section IV.C above are each considered to be a PSEU. The storage tanks are emission sources of VOCs, HAPs, and TAPs. Each storage tank has potential pre-control device emissions less than 100 tpy of VOCs and 10 tpy of each HAP and 25 tpy of total HAP. Thus, these sources do not meet the applicability criteria at 40 CFR 64.2(a)(3) and are not subject to CAM.

**Mixing rooms**

The mixing rooms identified in Section IV.D above are each considered to be a PSEU. Each of these mixing rooms are sources of VOC, HAPs and TAPs. Each mixing room has potential pre-control device emissions less than 100 tpy of VOCs and 10 tpy of each HAP and 25 tpy of total HAP. Thus, these sources do not meet the applicability criteria at 40 CFR 64.2(a)(3) and are not subject to CAM.

**Insignificant Activities**

The activities identified in Section IV.E above are each considered to be a PSEU. These sources are emission sources of PM/PM10/PM2.5, NO<sub>x</sub>, SO<sub>2</sub>, CO, VOCs, HAPs, and TAPs. Each source has potential pre-control device emissions less

than 100 tpy each of PM/PM10/PM2.5, NO<sub>x</sub>, SO<sub>2</sub>, CO, VOCs and 10 tpy of each HAP and 25 tpy of total HAP. In addition, the potential pre-control device emissions of each source are less than 5 tpy each of PM/PM10/PM2.5, NO<sub>x</sub>, SO<sub>2</sub>, CO, VOCs and 1000 pounds per year of each HAP, as they meet the definition of “insignificant activity because of size or production rate” as defined at 02Q 0503(8). Thus, these sources do not meet the applicability criteria at 40 CFR 64.2(a)(3) and are not subject to CAM.

## **V. NSPS, NESHAPS, PSD, Attainment Status, 112(r), and CAM**

### **NSPS**

The five boilers are subject to 40 CFR Part 60, Subpart Dc, “Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units”. See Section IV for a full discussion.

No other NSPS apply at the facility.

### **NESHAP/MACT**

The facility is a major source of HAP.

The emergency engine (IEG-1) and emergency fire pump (I-FP) are subject to 40 CFR Part 63, Subpart ZZZZ, “National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.”

According to the review for Permit No. R03, the engine IEG-1 was manufactured and placed into operation in January 2005. Thus, the engine is an existing source under MACT. For I-FP, the Permittee stated in an email received November 17, 2020 that it was installed in 1995. Thus, it is existing under the MACT.

The two print lines and the one PLM Line ( ES-PRINT01, ES-PRINT02, and ES-PRINT03 are subject to 40 CFR 63, Subpart JJJJ – “National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating”. See discussion in Section IV.A above.

The five boilers (B-1 through B-5) are subject to 40 CFR 63, Subpart DDDDD “National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters” See discussion in Section IV. B above.

### **PSD and Attainment Status**

Cabarrus county is currently classified as an Ozone attainment/maintenance area for the 1997 and 2008 ozone National Ambient Air Quality Standards (NAAQS) and an attainment area for the 2015 ozone NAAQS. Cabarrus County is also classified as “in attainment/unclassifiable” for all the other criteria pollutant NAAQS (carbon monoxide, lead, nitrogen dioxide, and particulate matter).

For major stationary sources located in areas designated as attainment with respect to a specific regulated criteria pollutant, the requirements of the PSD program (40 CFR Part 51.166, as incorporated into 15A NCAC 02D .0530) apply. Major stationary sources are those sources with the potential to emit (as defined at 40 CFR 51.166(b(4)) of 250 tons per year or more of a regulated New Source Review (NSR) pollutant. For sources in specific categories (none of which DNP is included), the potential to emit threshold is 100 tons per year.

Using Form D1 “Facility-wide Potential Emissions Summary” from the current permit application (application no. 1300168.17A), the facility-wide potential to emit of each regulated NSR pollutants after controls and limitations is less than 250 tpy each. The pollutant with the largest potential to emit is VOC, which is 71 tons per year.

### **CAM**

CAM applicability is addressed in Section IV of this review.

### **112r**

The Permittee is not subject to Section 112(r) of the Clean Air Act requirements because it does not store any of the regulated substances in quantities above the thresholds in 112(r).

## **VI. Compliance History**

An excerpt from the most recent compliance inspection report by Jim Vanwormer (December 08, 2020) is as follows:

<b>Five Year Violation History:</b>			
<b>Date</b>	<b>Letter Type</b>	<b>Rule Violated</b>	<b>Violation Resolution Date</b>
08/28/2018	NOV/NRE	2Q .0317 Avoidance Conditions	09/17/2018
07/10/2018	NOV	2Q .0207 Annual Emissions Reporting	08/29/2018
03/16/2018	NOV	Part 63 - NESHAP/MACT Subpart DDDDD Industrial, Commercial, and Institutional Boilers and Process Heaters	04/03/2018
03/16/2018	NOV/NRE	2Q .0317 Avoidance Conditions	04/02/2018
08/15/2017	NOV	2D .1111 Maximum Achievable Control Technology	08/28/2017
08/15/2017	NOV	2Q .0317 Avoidance Conditions	08/28/2017

From the same inspection report, it states:

“Based on my observations, this facility appeared to be in compliance with the applicable air quality regulations at the time of the inspection.”

## VII. Permitting History

The following outline provides a permitting history of the subject facility. Descriptive language is quoted from the air permit review documents.

<b>Permit No.</b>	<b>Issue Date</b>	<b>Application No.</b>	<b>Application type</b>
R03	October 17, 2016	1300168.15C	Modification -State
<b>Purpose of Application:</b> On November 30, 2015 the North Carolina Department of Environmental Quality (NCDEQ), Mooresville Regional Office (MRO) received an Air Permit Application from DNP Imagingcomm America Corporation (DNP). The application was forwarded to the Raleigh Central Office (RCO) - Division of Air Quality (DAQ) and received on December 2, 2015. The application request was for reclassification of their existing small facility to a Major Title V facility.  The DNP facility was issued Air Quality Permit No. 10116R02 (Synthetic Minor fee class) on October 1, 2015.  This application submittal proposes an expansion that will consist of a paper coating and laminating line to be located at 4541 Enterprise Drive NW, Concord, Cabarrus County, North Carolina (NC). Upon implementation of the changes proposed in this permit application, the printing/coating lines will be subject to 40 CFR 63 Subparts JJJJ, ZZZZ, and DDDDD.			

<b>Permit No.</b>	<b>Issue Date</b>	<b>Application No.</b>	<b>Application type</b>
R02	July 10, 2015	1300168.15B	Name change - Synthetic Minor
<b>Purpose of Application:</b> The facility submitted an application for an air permit renewal and modification. The facility is adding a second printing operation with an associated regenerative thermal oxidizer and a third exempt boiler.			

<b>Permit No.</b>	<b>Issue Date</b>	<b>Application No.</b>	<b>Application type</b>
R01	March 17, 2015	1300168.15A	Name change - Synthetic Minor
<b>Purpose of Application:</b> The facility has changed its name from DNP IMS America Corporation to DNP Imagingcomm America Corporation.			

<b>Permit No.</b>	<b>Issue Date</b>	<b>Application No.</b>	<b>Application type</b>
R00	November 17, 2010	1300168.10A	Greenfield-Synthetic Minor

**Purpose of Application:**

Application is for a Greenfield facility. This facility will process thermal transfer ribbon for dye sublimation.

**VIII. Facility Emissions Review**

The facility submitted Form D1 "Facility-wide Emissions Summary" with the current application (1300168.17A) and is reproduced below.

CRITERIA AIR POLLUTANT EMISSIONS INFORMATION - FACILITY-WIDE				
		EXPECTED ACTUAL EMISSIONS (AFTER CONTROLS / LIMITATIONS)	POTENTIAL EMISSIONS (BEFORE CONTROLS / LIMITATIONS)	POTENTIAL EMISSIONS (AFTER CONTROLS / LIMITATIONS)
AIR POLLUTANT EMITTED		tons/yr	tons/yr	tons/yr
PARTICULATE MATTER (PM)		2.46	2.46	2.46
PARTICULATE MATTER < 10 MICRONS (PM <sub>10</sub> )		2.46	2.46	2.46
PARTICULATE MATTER < 2.5 MICRONS (PM <sub>2.5</sub> )		2.46	2.46	2.46
SULFUR DIOXIDE (SO <sub>2</sub> )		0.19	0.19	0.19
NITROGEN OXIDES (NO <sub>x</sub> )		19.95	19.95	19.95
CARBON MONOXIDE (CO)		28.49	28.49	28.49
VOLATILE ORGANIC COMPOUNDS (VOC)		59.00	5132.80	59.00
LEAD				
OTHER				
HAZARDOUS AIR POLLUTANT EMISSIONS INFORMATION - FACILITY-WIDE				
		EXPECTED ACTUAL EMISSIONS (AFTER CONTROLS / LIMITATIONS)	POTENTIAL EMISSIONS (BEFORE CONTROLS / LIMITATIONS)	POTENTIAL EMISSIONS (AFTER CONTROLS / LIMITATIONS)
HAZARDOUS AIR POLLUTANT EMITTED	CAS NO.	tons/yr	tons/yr	tons/yr
Toluene	108-88-3	20.97	1780.15	20.97
Methanol	67-56-1	1.01	82.03	1.01
MIBK	108-10-1	0.12	9.65	0.12
n-Hexane	110-54-3	0.59	0.99	0.59

TOXIC AIR POLLUTANT EMISSIONS INFORMATION - FACILITY-WIDE						
INDICATE REQUESTED ACTUAL EMISSIONS AFTER CONTROLS / LIMITATIONS. EMISSIONS ABOVE THE TOXIC PERMIT EMISSION RATE (TPER) IN 15A NCAC 2Q .0711 MAY REQUIRE AIR DISPERSION MODELING. USE NETTING FORM D2 IF NECESSARY.						
TOXIC AIR POLLUTANT EMITTED	CAS NO.	lb/hr	lb/day	lb/year	Modeling Required ?	
					Yes	No
Methyl Ethyl Ketone	78-93-3	6.73	161.57	58,954.80	Exempt	
Toluene	108-88-3	4.79	114.89	41,960.40		
MIBK	108-10-1	0.027	0.65	236.52		
n-Hexane	110-54-3	0.13	3.22	1,138.80		
Ethyl Acetate	141-78-6	0.049	1.17	429.24		
Acetic Acid	64-19-7	0.056	1.34	490.56		

Note the facility primarily emits VOCs, HAPS and state regulated only TAPs on a potential emissions basis. These pollutants are emitted primarily from the web coating lines and fugitively from the various VOC storage and handling operations that support the coating lines. Other pollutants are primarily the result of combustion emissions from the five boilers and emergency generator. Note that the potential emissions of total VOC, toluene and methanol are the main drivers for the facility to be classified as a Title V major facility.

Page One of this review document provides the previous five years of emissions inventory data. Consistent with the D1 Form, the primary HAP pollutant is toluene, which is also the largest contributor to the total VOC and total HAP emissions.

**IX. Changes Implemented in Revised Permit**

Existing Condition No.	New Condition No.	Changes
Cover Letter	Same	<ul style="list-style-type: none"> <li>Updated permit revision numbers, issue, and effective dates, etc.</li> </ul>

Existing Condition No.	New Condition No.	Changes
insignificant activities list		<ul style="list-style-type: none"> <li>the list was revised to add:               <ul style="list-style-type: none"> <li>I-FP - Diesel fuel fired-fired Emergency Fire Pump (80 horsepower engine output)</li> <li>IS-1 - Dust controlled raw material silos (4 sq ft of filter area)</li> <li>IS-2 - Dust controlled raw material silos (4 sq ft of filter area)</li> <li>I-TR - Trim Removal Line</li> <li>Removed MACT JJJJ identifier from the miscellaneous hand cleaning operation (IHC-1)</li> </ul> </li> </ul>
Permit, page 1	Same	<ul style="list-style-type: none"> <li>Revised dates, permit numbers, etc.</li> </ul>
Permitted Equipment List	Same	<ul style="list-style-type: none"> <li>T3 revised from Isopropyl alcohol (IPA) storage tank (4,000 gallon capacity) to Ethanol storage tank (1,000 gallon capacity)</li> <li>T4 and T5 revised from waste solvent storage to IPA storage</li> <li>T6 revised from waste solvent storage to n-Propyl Acetate storage</li> <li>Revised the capacity for tank T-7 from 8,000 to 6,000 gallons</li> <li>Revised the capacity for tank T-8 from 6,000 to 8,000 gallons</li> <li>Revised descriptor for mixing rooms</li> <li>Removed MACT JJJJ identifier from the mixing rooms</li> <li>Revised boiler heat inputs as follows:               <ul style="list-style-type: none"> <li>B-1 through B-3 from 12.3 to 12.4 MMBtu/hr</li> <li>B-4 and B-5 from 12.3 to 11.5 MMBtu/hr</li> </ul> </li> </ul>
NA	Section 2.1 A	<b>Print Lines 1 and 2 and the PLM Line (ID Nos. ES-PRINT01, ES-PRINT02, and ES-PRINT03)</b>
		<ul style="list-style-type: none"> <li>Included Section 2.1 A to the initial TV permit to address the specific requirements of these sources.</li> <li>No new regulations apply but the testing, monitoring, recordkeeping and reporting requirements were revised or added as necessary to meet the requirements of a TV permit as required pursuant to 15A NCAC 02Q .0500</li> <li>Added applicable regulations summary table</li> </ul>
NA	Section 2.1 B	<b>Five Boilers (ID Nos. B-1 through B-5)</b>
		<ul style="list-style-type: none"> <li>Included Section 2.1 B to the initial TV permit to address the specific requirements of these sources.</li> <li>No new regulations apply but the testing, monitoring, recordkeeping and reporting requirements were revised or added as necessary to meet the requirements of a TV permit as required pursuant to 15A NCAC 02Q .0500</li> <li>Added applicable regulations summary table</li> </ul>
A.4	2.1 B.1	<ul style="list-style-type: none"> <li>Corrected the allowable emission rates as discussed in review</li> </ul>
A.6	2.1 B.2	<ul style="list-style-type: none"> <li>This 02D .0516 condition was made specific to the five boilers.</li> </ul>
A.7	2.1 B.3	<ul style="list-style-type: none"> <li>This 02D .0521 condition was made specific to the five boilers.</li> </ul>
A.8	2.1 B.4	<ul style="list-style-type: none"> <li>Revised the NSPS subpart Dc condition (02D .0524) condition to current TV standards. Added monthly recordkeeping for fuel usage.</li> </ul>
A.13	2.1 B.5	<ul style="list-style-type: none"> <li>Revised the MACT DDDDD condition (02D .111) condition to current TV standards. Removed/memorialized compliance milestones already met.</li> </ul>
NA	Section 2.1 C	<b>Storage Tanks (ID Nos. T-1 through T-9)</b>
		<ul style="list-style-type: none"> <li>Included Section 2.1 B to the initial TV permit to address the specific requirements of these sources.</li> <li>The testing, monitoring, recordkeeping and reporting requirements were revised or added as necessary to meet the requirements of a TV permit as required pursuant to 15A NCAC 02Q .0500</li> <li>Added applicable regulations summary table</li> </ul>
NA	Section 2.1 D	<b>Mixing Rooms (ID Nos. (ES-MIX01 and ES-MIX02)</b>

Existing Condition No.	New Condition No.	Changes
		<ul style="list-style-type: none"> <li>Added a section to address the mixing rooms (ES-MIX01 and ES-MIX02)</li> </ul>
NA	Section 2.2	<ul style="list-style-type: none"> <li>Added a section to address “Multiple Emission Source(s) Specific Limitations and Conditions”</li> </ul>
A.11	2.2 A.1	<ul style="list-style-type: none"> <li>A condition addressing 02D .0958 was also included in the revised permit. No substantive changes were made to the existing permit condition with the exception of monitoring, recordkeeping and reporting requirements consistent with current DAQ Title V permit shell standards were added.</li> </ul>
A.14	2.2 A.2	<ul style="list-style-type: none"> <li>A condition addressing 02D .1806 was included in revised permit. This condition is state-enforceable only. No substantive changes were made to the existing permit condition.</li> </ul>
NA	2.2 B.1	<ul style="list-style-type: none"> <li>Added a state enforceable only 02D .1100 condition to address TAP emissions from non-MACT affected emission sources.</li> <li>No testing, monitoring, recordkeeping and reporting is required given the margin of compliance and the nature of the emission sources (i.e., passive storage tanks)</li> </ul>
NA	2.2 B.2	<ul style="list-style-type: none"> <li>a condition addressing 15A NCAC 02Q .0317 AVOIDANCE CONDITIONS for 15A NCAC 02Q .0531 SOURCES IN NONATTAINMENT AREAS was included in the revised permit.</li> <li>The affected source list was revised to reflect the just the legally affected sources.</li> <li>The monitoring was streamlined to align with the MACT monitoring requirements of the largest VOC emitters.</li> <li>The recordkeeping was revised to be consistent with current TV permitting policy.</li> </ul>
B	Section 3	<ul style="list-style-type: none"> <li>The GENERAL CONDITIONS were revised to version 5.5, 08/25/2020 reflect those applicable to a source permitted pursuant to 15A NCAC 02Q .0500.</li> </ul>

## X. Public Notice/EPA and Affected State(s) Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with 15A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit, and each final permit pursuant shall be provided to EPA.

Also pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State and local program at or before the time notice provided to the public under 02Q .0521 above.

For the purposes of 02Q .0522, an “affected state” is defined at 02Q .0503(1) as follows:

- (1) "Affected States" means all states or local air pollution control agencies whose areas of jurisdiction are:
  - (a) contiguous to North Carolina and located less than  $D=Q/12.5$  from the facility, where:
    - (i)  $Q$  = emissions of the pollutant emitted at the highest permitted rate in tons per year, and
    - (ii)  $D$  = distance from the facility to the contiguous state or local air pollution control agency in miles unless the applicant can demonstrate that the ambient impact in the contiguous states or local air pollution control agencies is less than the incremental ambient levels in 15A NCAC 02D .0532(c)(5); or
  - (b) within 50 miles of the permitted facility.

The distance  $D$ , as calculated pursuant to (a), equals 50 miles, as defined at (b) when  $Q$  equals 625 tpy. Using Form D1 “Facility-wide Potential Emissions Summary” from the current permit application (application no. 1300168.17A), the total permitted potential emissions of all pollutants after controls and limitations is approximately 122 tpy. Note that all the HAPs and TAPs are a subset of total VOC. Thus,  $D$  equals 9.8 miles.

The Mecklenburg County Air Quality local program is located within 8.8 miles and hence is an “affected state.” Expanding this distance out to a radius of 50 miles, the Forsyth County Office of Environmental Assistance and Protection local program and the state of South Carolina are also “affected states.”

In addition to notification being provided to these “affected states,” the notification will be provided to all other contiguous states (Virginia and Tennessee). Current NC permitting policy is to provide notice to all local programs in NC and all contiguous states regardless of their status as an affected state.

~~Notice of the DRAFT Title V Permit to Affected States ran from XXXX YY, 2020, to XXXX YY, 2020. Update with comments received from Affected States.~~

~~Public Notice of the DRAFT Title V Permit ran from XXXX YY, 2020, to XXXX YY, 2020. Update with public comments received.~~

~~EPA’s 45-day review period ran concurrent with the 30-day Public Notice, from XXXX YY, 2020, to XXXX YY, 2020. Update with comments received from EPA and U.S. EPA Region 4 regarding the DRAFT Title V Permit.~~

## XI. PE Seal

Pursuant to 15A NCAC 02Q .0112 “Application requiring a Professional Engineering Seal,” a professional engineer’s seal (PE Seal) is required to seal technical portions of air permit applications for new sources and modifications of existing sources as defined in 15A NCAC 02Q .0103 that involve:

- (1) design;
- (2) determination of applicability and appropriateness; or
- (3) determination and interpretation of performance; of air pollution capture and control systems.

A professional engineer’s seal (PE Seal) was not required for this initial TV permitting action (application no. 1300168.17A) since it did not involve a new source nor a modification to existing sources.

## XII. Zoning

A zoning consistency determination per 02Q .0304(b) was **NOT** required for this permitting action as it is not a new facility or the expansion of an existing facility.

## XIII. Recommendations

~~This permit application has been reviewed by NC DAQ to determine compliance with all procedures and requirements. NC DAQ has determined that this facility appears to be complying with all applicable requirements.~~

~~The Mooresville Regional Office has received a copy of this permit and submitted comments that were incorporated as described in Section VIII.~~

~~Recommend Issuance of Permit No. 11106T04.~~